

atg agt aat aaa aac gtc aat gta agg aaa tcg cag gaa ata aca ttc	48
Met Ser Asn Lys Asn Val Asn Val Arg Lys Ser Gln Glu Ile Thr Phe	
1 5 10 15	
tgc ttg ctg gca ggt atc ctg atg ttc atg gca atg atg gtt gcc gga	96
Cys Leu Leu Ala Gly Ile Leu Met Phe Met Ala Met Met Val Ala Gly	
20 25 30	
cgc gct gaa gcg gga gtg gcc tta ggt gcg act cgc gta att tat ccg	144
Arg Ala Glu Ala Gly Val Ala Leu Gly Ala Thr Arg Val Ile Tyr Pro	
35 40 45	
gca ggg caa aaa caa gtg caa ctt gcc gtg aca aat gat gaa aat	192
Ala Gly Gln Lys Gln Val Gln Leu Ala Val Thr Asn Asn Asp Glu Asn	
50 55 60	
agt acc tat tta att caa tca tgg gtg gaa aat gcc gat ggt gta aag	240
Ser Thr Tyr Leu Ile Gln Ser Trp Val Glu Asn Ala Asp Gly Val Lys	
65 70 75 80	
gat ggt cgt ttt atc gtg acg cct cct ctg ttt gcg atg aag gga aaa	288
Asp Gly Arg Phe Ile Val Thr Pro Pro Leu Phe Ala Met Lys Gly Lys	
85 90 95	
aaa gag aat acc tta cgt att ctt gat gca aca aat aac caa ttg cca	336
Lys Glu Asn Thr Leu Arg Ile Leu Asp Ala Thr Asn Asn Gln Leu Pro	
100 105 110	
cag gac cgg gaa agt tta ttc tgg atg aac gtt aaa gcg att ccg tca	384
Gln Asp Arg Glu Ser Leu Phe Trp Met Asn Val Lys Ala Ile Pro Ser	
115 120 125	
atg gat aaa tca aaa ttg act gag aat acg cta cag ctc gca att atc	432
Met Asp Lys Ser Lys Leu Thr Glu Asn Thr Leu Gln Leu Ala Ile Ile	
130 135 140	
agc gcg att aaa ctg tac tat cgc ccg gct aaa tta gcg ttg cca ccc	480
Ser Arg Ile Lys Leu Tyr Thr Arg Pro Ala Lys Leu Ala Leu Pro Pro	
145 150 155 160	
gat cag gcc gca gaa aaa tta aga ttt cgt cgt agc gcg aat tct ctg	528
Asp Gln Ala Ala Glu Lys Leu Arg Phe Arg Arg Ser Ala Asn Ser Leu	
165 170 175	
acg ctg att aac ccg aca ccc tat tac ctg acg gta aca gag ttg aat	576
Thr Leu Ile Asn Pro Thr Pro Tyr Thr Leu Thr Val Thr Glu Leu Asn	
180 185 190	

FIG.1A-1

gcc gga acc cgg gtt ctt gaa aat gca ttg gtg cct cca atg ggc gaa	624
Ala Gly Thr Arg Val Leu Glu Asn Ala Leu Val Pro Pro Met Gly Glu	
195 200 205	
agc acg gtt aaa ttg cct tct gat gca gga agc aat att act tac cga	672
Ser Thr Val Lys Leu Pro Ser Asp Ala Gly Ser Asn Ile Thr Tyr Arg	
210 215 220	
aca ata aat gat tat ggc gca ctt acc ccc aaa atg acg ggc gta atg	720
Thr Ile Asn Asp Tyr Gly Ala Leu Thr Pro Lys Met Thr Gly Val Met	
225 230 235 240	
gaa taa	726
Glu	

FIG.1A-2

Met	Ser	Asn	Lys	Asn	Val	Asn	Val	Arg	Lys	Ser	Gln	Glu	Ile	Thr	Phe
1				5				10					15		
Cys	Leu	Leu	Ala	Gly	Ile	Leu	Met	Phe	Met	Ala	Met	Met	Val	Ala	Gly
			20					25					30		
Arg	Ala	Glu	Ala	Gly	Val	Ala	Leu	Gly	Ala	Thr	Arg	Val	Ile	Tyr	Pro
		35					40					45			
Ala	Gly	Gln	Lys	Gln	Val	Gln	Leu	Ala	Val	Thr	Asn	Asn	Asp	Glu	Asn
		50				55					60				
Ser	Thr	Tyr	Leu	Ile	Gln	Ser	Trp	Val	Glu	Asn	Ala	Asp	Gly	Val	Lys
65					70					75				80	
Asp	Gly	Arg	Phe	Ile	Val	Thr	Pro	Pro	Leu	Phe	Ala	Met	Lys	Gly	Lys
			85						90					95	
Lys	Glu	Asn	Thr	Leu	Arg	Ile	Leu	Asp	Ala	Thr	Asn	Asn	Gln	Leu	Pro
			100					105					110		
Gln	Asp	Arg	Glu	Ser	Leu	Phe	Trp	Met	Asn	Val	Lys	Ala	Ile	Pro	Ser
		115					120					125			
Met	Asp	Lys	Ser	Lys	Leu	Thr	Glu	Asn	Thr	Leu	Gln	Leu	Ala	Ile	Ile
		130				135					140				
Ser	Arg	Ile	Lys	Leu	Tyr	Tyr	Arg	Pro	Ala	Lys	Leu	Ala	Leu	Pro	Pro
145				150					155					160	
Asp	Gln	Ala	Ala	Glu	Lys	Leu	Arg	Phe	Arg	Arg	Ser	Ala	Asn	Ser	Leu
			165						170					175	
Thr	Leu	Ile	Asn	Pro	Thr	Pro	Tyr	Tyr	Leu	Thr	Val	Thr	Glu	Leu	Asn
			180					185					190		
Ala	Gly	Thr	Arg	Val	Leu	Glu	Asn	Ala	Leu	Val	Pro	Pro	Met	Gly	Glu
		195					200					205			
Ser	Thr	Val	Lys	Leu	Pro	Ser	Asp	Ala	Gly	Ser	Asn	Ile	Thr	Tyr	Arg
	210					215					220				
Thr	Ile	Asn	Asp	Tyr	Gly	Ala	Leu	Thr	Pro	Lys	Met	Thr	Gly	Val	Met
225					230					235				240	
Glu															

FIG. 1B

atg aaa cga gtt att acc ctg ttt gct gta ctg ctg atg ggc tgg tcg Met Lys Arg Val Ile Thr Leu Phe Ala Val Leu Met Gly Trp Ser -20 -15 -10	48
gta aat gcc tgg tca ttc gcc tgt aaa acc gcc aat ggt acc gct atc Val Asn Ala Trp Ser Phe Ala Cys Lys Thr Ala Asn Gly Thr Ala Ile -5 -1 1 5 10	96
cct att ggc ggt ggc agc gcc aat gtt tat gta aac ctt gcg ccc gtc Pro Ile Gly Gly Ser Ala Asn Val Tyr Val Asn Leu Ala Pro Val 15 20 25	144
gtg aat gtg ggg caa aac ctg gtc gtg gat ctt tcg acg caa atc ttt Val Asn Val Gly Gln Asn Leu Val Val Asp Leu Ser Thr Gln Ile Phe 30 35 40	192
tgc cat aac gat tat ccg gaa acc att aca gac tat gtc aca ctg caa Cys His Asn Asp Tyr Pro Glu Thr Ile Thr Asp Tyr Val Thr Leu Gln 45 50 55	240
cga ggc tcg gct tat ggc ggc gtg tta tct aat ttt tcc ggg acc gta Arg Gly Ser Ala Tyr Gly Gly Val Leu Ser Asn Phe Ser Gly Thr Val 60 65 70 75	288
aaa tat agt ggc agt agc tat cca ttt cct acc acc agc gaa acg ccg Lys Tyr Ser Gly Ser Tyr Pro Phe Pro Thr Thr Ser Glu Thr Pro 80 85 90	336
cgc gtt gtt tat aat tcg aga acg gat aag ccg tgg ccg gtg gcg ctt Arg Val Val Tyr Asn Ser Arg Thr Asp Lys Pro Trp Pro Val Ala Leu 95 100 105	384
tat ttg acg cct gtg agc agt gcg ggc ggg gtg gcg att aaa gct ggc Tyr Leu Thr Pro Val Ser Ser Ala Gly Gly Val Ala Ile Lys Ala Gly 110 115 120	432
tca tta att gcc gtg ctt att ttg cga cag acc aac aac tat aac agc Ser Leu Ile Ala Val Leu Ile Leu Arg Gln Thr Asn Asn Tyr Asn Ser 125 130 135	480
gat gat ttc cag ttt gtg tgg aat att tac gcc aat aat gat gtg gtg Asp Asp Phe Gln Phe Val Trp Asn Ile Tyr Ala Asn Asn Asp Val Val 140 145 150 155	528
gtg cct act ggc ggc tgc gat gtt tct gct cgt gat gtc acc gtt act Val Pro Thr Gly Cys Cys Asp Val Ser Ala Arg Asp Val Thr Val Thr 160 165 170	576

FIG.1C-1

ctg ccg gac tac cct ggt tca gtg cca att cct ctt acc gtt tat tgt	624
Leu Pro Asp Tyr Pro Gly Ser Val Pro Ile Pro Leu Thr Val Tyr Cys	
175 180 185	
gcg aaa agc caa aac ctg ggg tat tac ctc tcc ggc aca acc gca gat	672
Ala Lys Ser Gln Asn Leu Gly Tyr Tyr Leu Ser Gly Thr Thr Ala Asp	
190 195 200	
gcg ggc aac tcg att ttc acc aat acc gcg tcg ttt tca cct gca cag	720
Ala Gly Asn Ser Ile Phe Thr Asn Thr Ala Ser Phe Ser Pro Ala Gln	
205 210 215	
ggc gtc ggc gta cag ttg acg cgc aac ggt acg att att cca gcg aat	768
Gly Val Gly Val Gln Leu Thr Arg Asn Gly Thr Ile Ile Pro Ala Asn	
220 225 230 235	
aac acg gta tcg tta gga gca gta ggg act tcg gcg gtg agt ctg gga	816
Asn Thr Val Ser Leu Gly Ala Val Gly Thr Ser Ala Val Ser Leu Gly	
240 245 250	
tta acg gca aat tat gca cgt acc gga ggg cag gtg act gca ggg aat	864
Leu Thr Ala Asn Tyr Ala Arg Thr Gly Gly Gln Val Thr Ala Gly Asn	
255 260 265	
gtg caa tcg att att ggc gtg act ttt gtt tat caa taa	903
Val Gln Ser Ile Ile Gly Val Thr Phe Val Tyr Gln	
270 275	

FIG. 1C-2

Inventor(s): LANGERMANN et al.
Title: "MUTANT PROTEINS, HIGH POTENCY INHIBITORY
ANTIBODIES, AND FimCH CRYSTAL STRUCTURE"

Met	Lys	Arg	Val	Ile	Thr	Leu	Phe	Ala	Val	Leu	Leu	Met	Gly	Trp	Ser
	-20					-15				-10					
Val	Asn	Ala	Trp	Ser	Phe	Ala	Cys	Lys	Thr	Ala	Asn	Gly	Thr	Ala	Ile
-5			-1	1				5					10		
Pro	Ile	Gly	Gly	Gly	Ser	Ala	Asn	Val	Tyr	Val	Asn	Leu	Ala	Pro	Val
		15						20					25		
Val	Asn	Val	Gly	Gln	Asn	Leu	Val	Val	Asp	Leu	Ser	Thr	Gln	Ile	Phe
		30					35					40			
Cys	His	Asn	Asp	Tyr	Pro	Glu	Thr	Ile	Thr	Asp	Tyr	Val	Thr	Leu	Gln
	45					50				55					
Arg	Gly	Ser	Ala	Tyr	Gly	Gly	Val	Leu	Ser	Asn	Phe	Ser	Gly	Thr	Val
60					65					70				75	
Lys	Tyr	Ser	Gly	Ser	Ser	Tyr	Pro	Phe	Pro	Thr	Thr	Ser	Glu	Thr	Pro
				80					85					90	
Arg	Val	Val	Tyr	Asn	Ser	Arg	Thr	Asp	Lys	Pro	Trp	Pro	Val	Ala	Leu
		95						100					105		
Tyr	Leu	Thr	Pro	Val	Ser	Ser	Ala	Gly	Gly	Val	Ala	Ile	Lys	Ala	Gly
	110						115					120			
Ser	Leu	Ile	Ala	Val	Leu	Ile	Leu	Arg	Gln	Thr	Asn	Asn	Tyr	Asn	Ser
	125					130					135				
Asp	Asp	Phe	Gln	Phe	Val	Trp	Asn	Ile	Tyr	Ala	Asn	Asn	Asp	Val	Val
140					145					150				155	
Val	Pro	Thr	Gly	Gly	Cys	Asp	Val	Ser	Ala	Arg	Asp	Val	Thr	Val	Thr
			160					165						170	
Leu	Pro	Asp	Tyr	Pro	Gly	Ser	Val	Pro	Ile	Pro	Leu	Thr	Val	Tyr	Cys
		175						180					185		
Ala	Lys	Ser	Gln	Asn	Leu	Gly	Tyr	Tyr	Leu	Ser	Gly	Thr	Thr	Ala	Asp
		190					195					200			
Ala	Gly	Asn	Ser	Ile	Phe	Thr	Asn	Thr	Ala	Ser	Phe	Ser	Pro	Ala	Gln
	205					210					215				
Gly	Val	Gly	Val	Gln	Leu	Thr	Arg	Asn	Gly	Thr	Ile	Ile	Pro	Ala	Asn
220					225					230				235	
Asn	Thr	Val	Ser	Leu	Gly	Ala	Val	Gly	Thr	Ser	Ala	Val	Ser	Leu	Gly
			240					245					250		
Leu	Thr	Ala	Asn	Tyr	Ala	Arg	Thr	Gly	Gly	Gln	Val	Thr	Ala	Gly	Asn
			255					260					265		
Val	Gln	Ser	Ile	Ile	Gly	Val	Thr	Phe	Val	Tyr	Gln				
		270					275								

FIG.1D

Docket No.: 10271-037-999

Serial No.: 10/015,085

Inventor(s): LANGERMANN et al.

Title: "MUTANT PROTEINS, HIGH POTENCY INHIBITORY
ANTIBODIES, AND FimCH CRYSTAL STRUCTURE"



FIG.2A

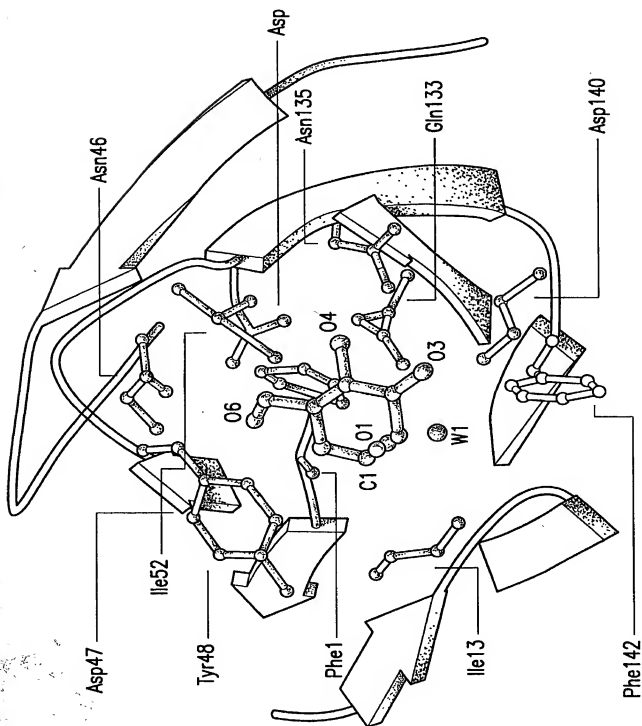


FIG.2B

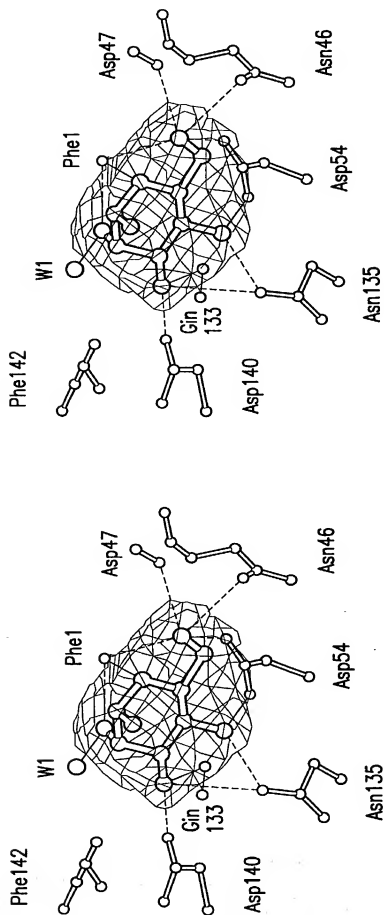


FIG.2C

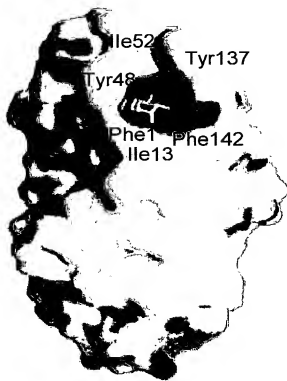


FIG.2D

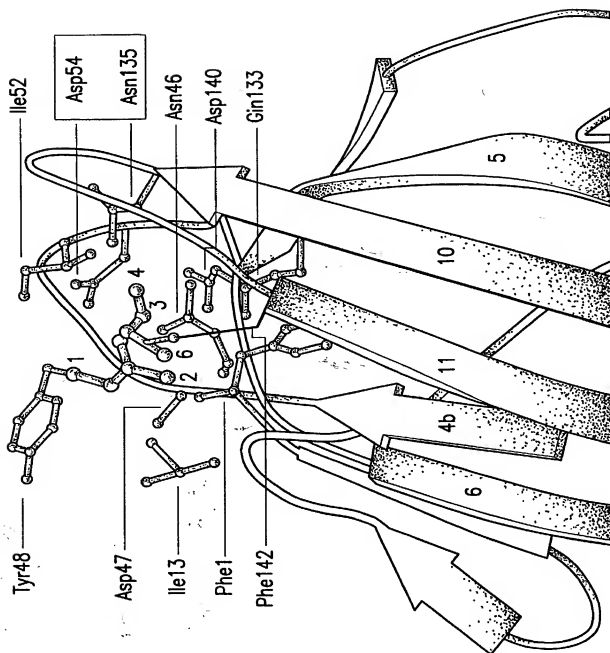


FIG.2E

	1	13	26	27	42	44	54	62	66	70	74	76	78	110	118	119	126	132	142
J96	F	I	P	V	I		CHNDYPETTTD	S	G	N	T	K	S	P	V	A	I	RTITNNYSDDF	
EC45	.	.	.	A	.	.	.....	A	.	S	.	.	N	.	.	.	.	.....
B217	.	.	.	A	.	.	.....	A	.	S	.	.	N	.	.	.	.	.....
DS17	.	.	.	A	.	.	.....	.	.	S	I	.	N	.	.	.	.	.....
B212	.	.	.	A	.	.	.....	.	.	S	I	.	N	.	.	V	.	.....
EC42	.	.	.	A	.	.	.....	.	.	.	I	.	.	.	.	.	.	.....
B210	I	.	.	.	.	.	.	.....
B228	.	.	.	A	.	.	.....	.	.	.	.	.	.	.	.	.	.	.....
B238	.	.	I	A	.	.	.....	.	.	.	.	.	.	.	.	V	.	.....
B240	L	V	.	.....
B242	.	.	.	A	.	.	.....	.	.	.	.	.	.	.	.	.	.	.....
EC58	.	.	.	A	.	.	.....	.	S	S	.	.	N	.	.	.	.	.....
EC60	V	.	.....
EC61	.	.	.	A	.	.	.....	.	.	.	E	.	.	.	.	.	.	.....
EC80	.	.	.	A	.	.	.....	.	.	S	.	.	N	.	.	.	.	.....
EC95	.	.	.	A	.	.	.....	.	.	S	.	.	N	.	L	.	.	.....
EC189	.	.	.	A	.	.	.....	.	.	.	.	.	.	.	.	.	.	...K.....	

FIG.3

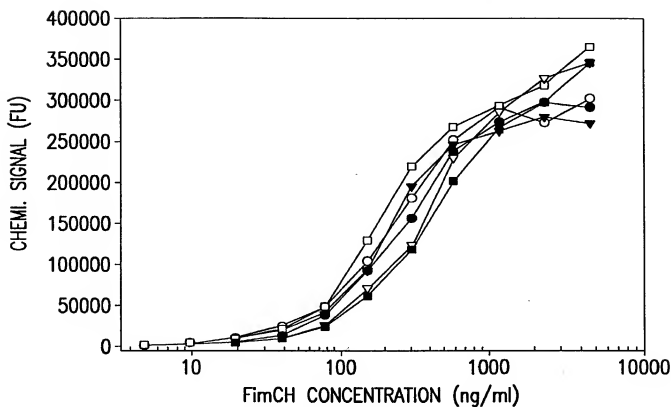


FIG.4



FIG.5A

Docket No. 10271-037-999

Serial No. 10/015,085

Inventor(s). LANGERMANN et al.

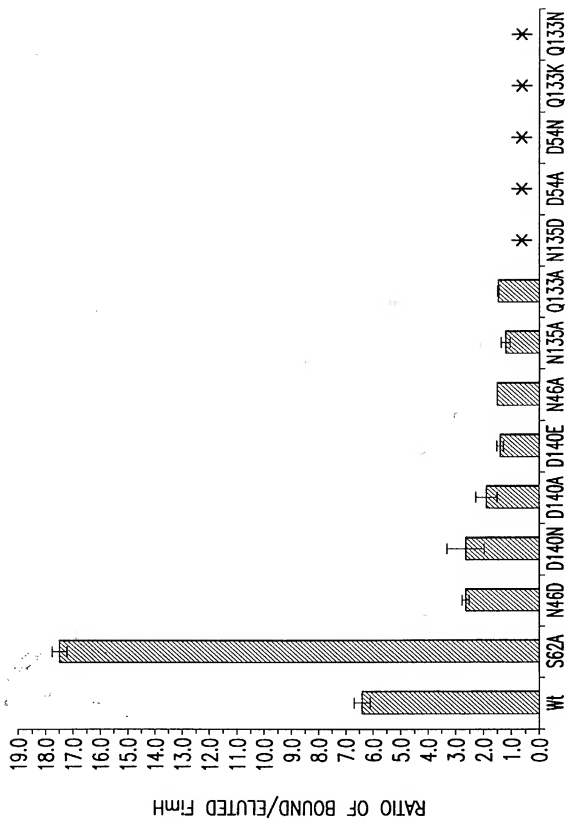
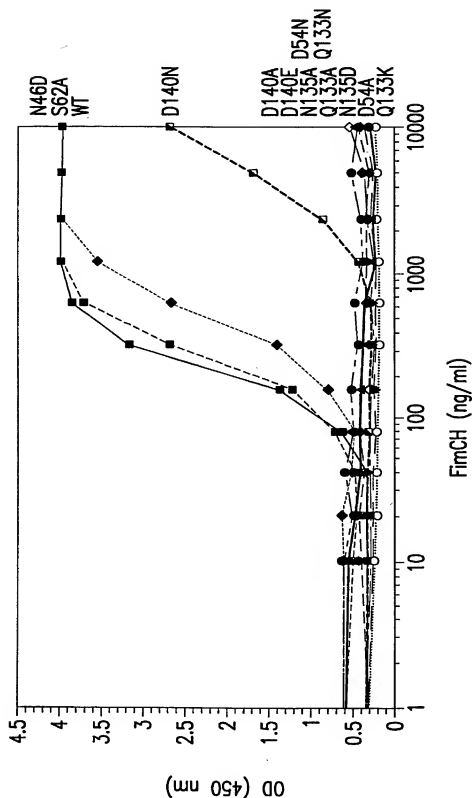
Title: "MUTANT PROTEINS, HIGH POTENCY INHIBITORY
ANTIBODIES, AND FimCH CRYSTAL STRUCTURE"

FIG.5B



FimCH (ng/ml)

FIG. 6A-1

Inventor(s): LANGERMANN et al.
Title "MUTANT PROTEINS, HIGH POTENCY INHIBITORY
ANTIBODIES, AND FimCH CRYSTAL STRUCTURE"

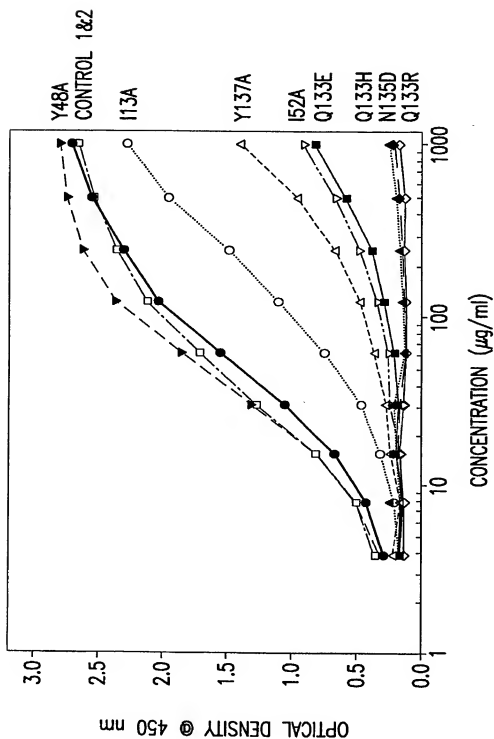
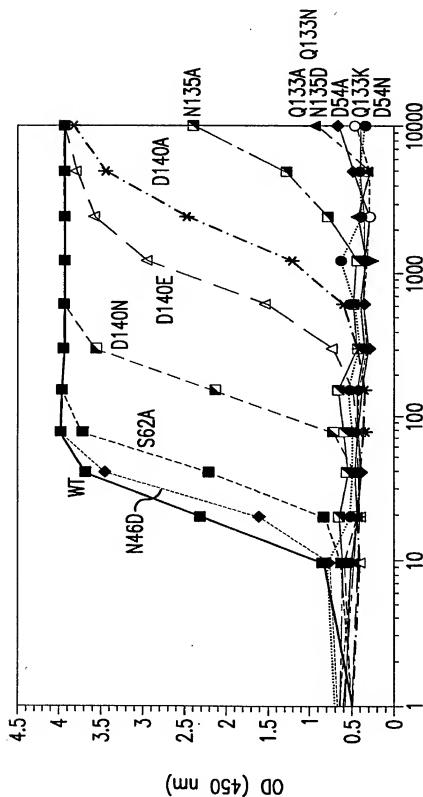


FIG. 6A-2



FimCH (ng/ml)

FIG.6B-1

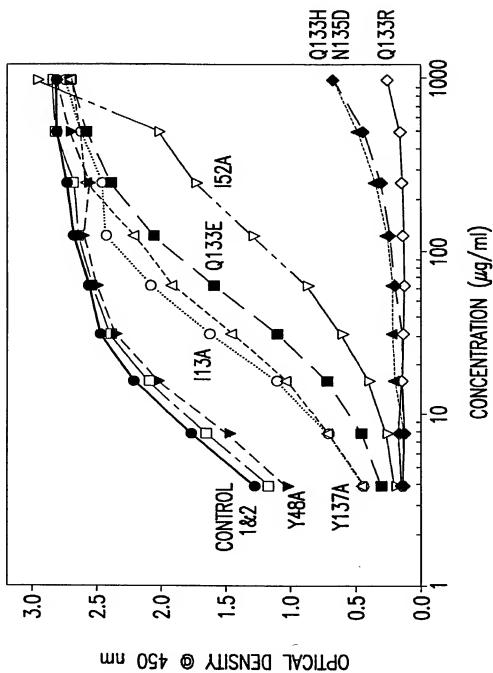


FIG. 6B-2

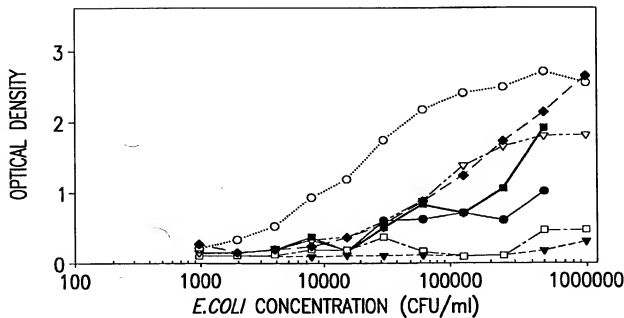


FIG. 7A

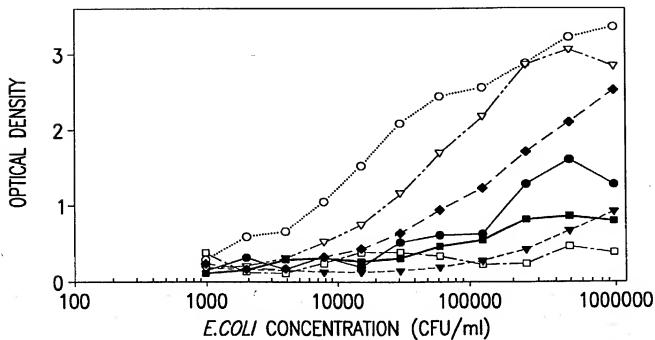


FIG. 7B

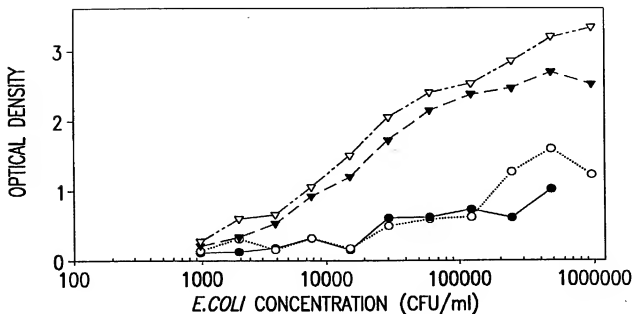


FIG. 7C

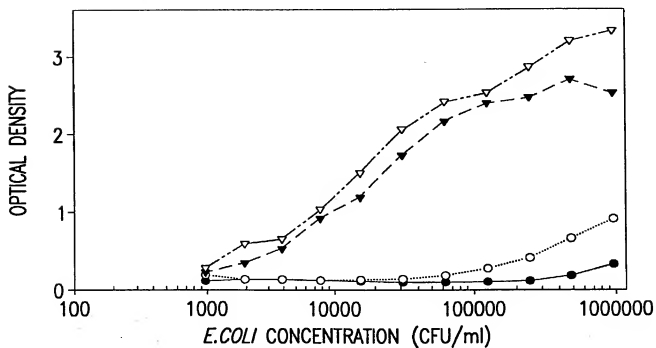


FIG. 7D

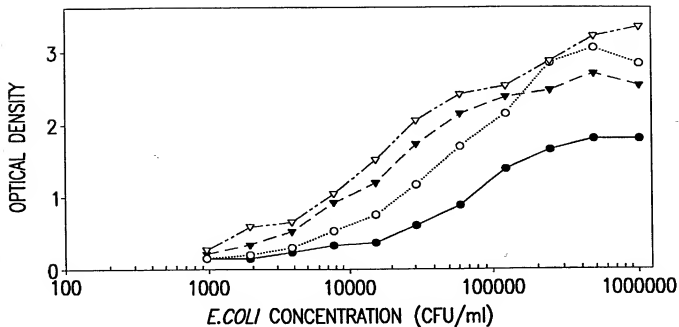


FIG. 7E

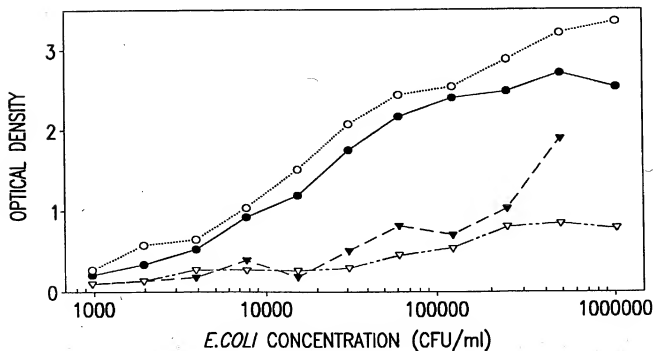


FIG. 7F

Docket No.: 10271-037-999
Serial No.: 10/015,085
Inventor(s): LANGERMANN et al.
Title: "MUTANT PROTEINS, HIGH POTENCY INHIBITORY
ANTIBODIES, AND FimCH CRYSTAL STRUCTURE"

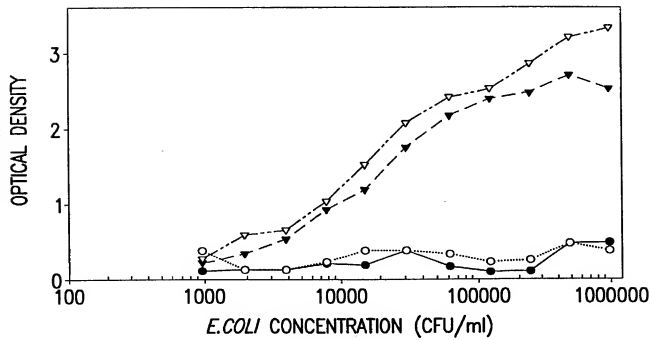


FIG. 7G

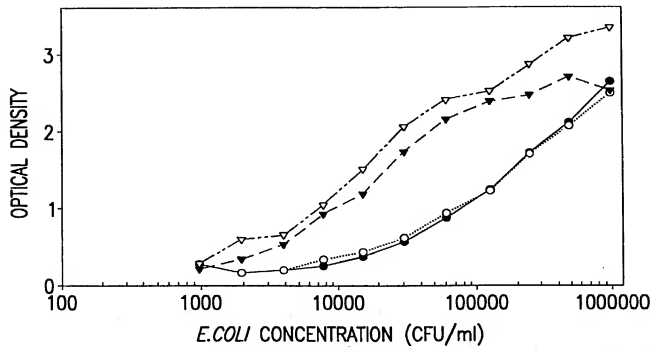


FIG. 7H

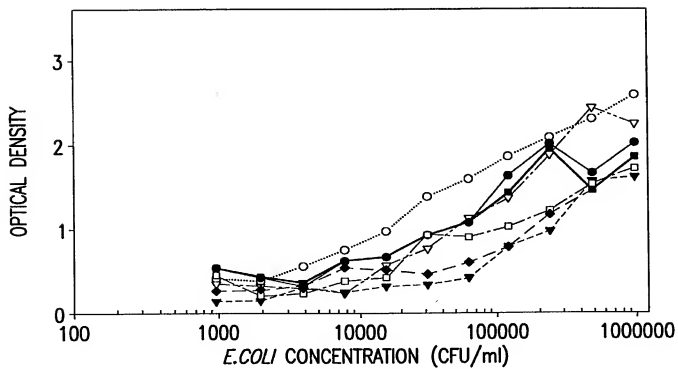


FIG.7I

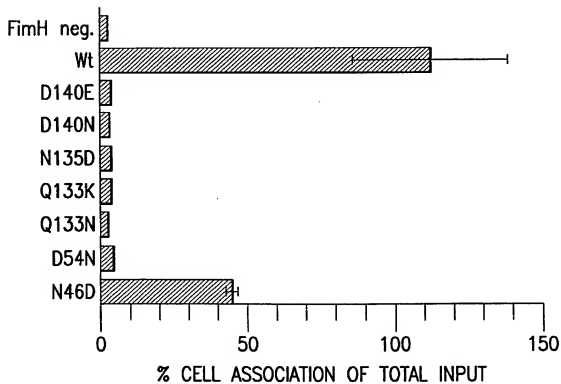
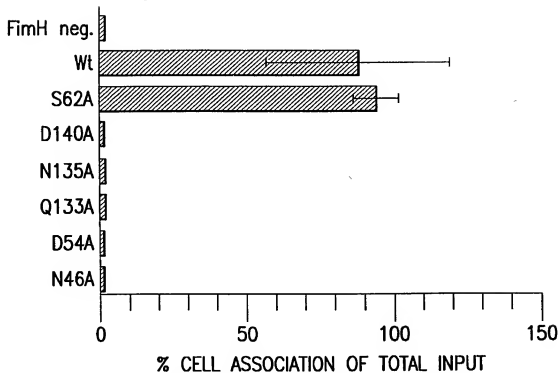


FIG.8A

Inventor(s): LANGERMANN et al.
Title: "MUTANT PROTEINS, HIGH POTENCY INHIBITORY
ANTIBODIES, AND FimCH CRYSTAL STRUCTURE"

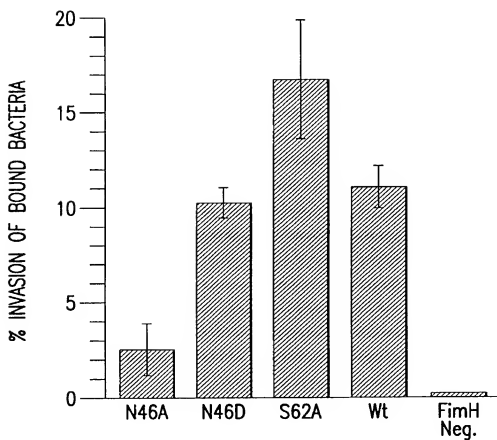


FIG.8B

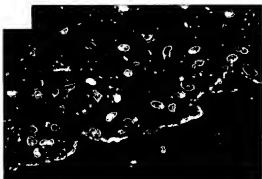


FIG. 9A

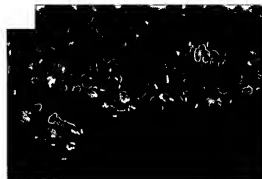


FIG. 9B



FIG. 9C

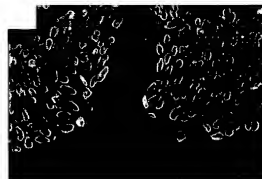


FIG. 9D



FIG. 9E

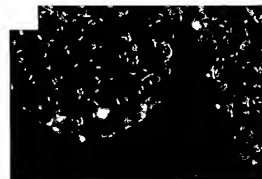


FIG. 9F

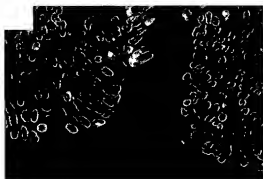


FIG.9G

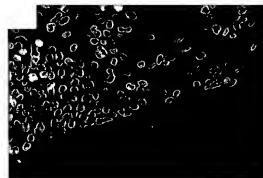


FIG.9H

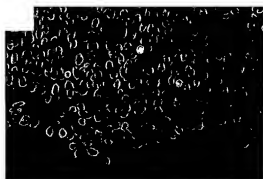


FIG.9I

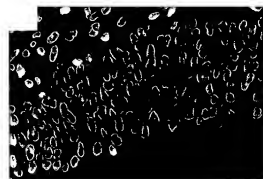


FIG.9J



FIG.9K

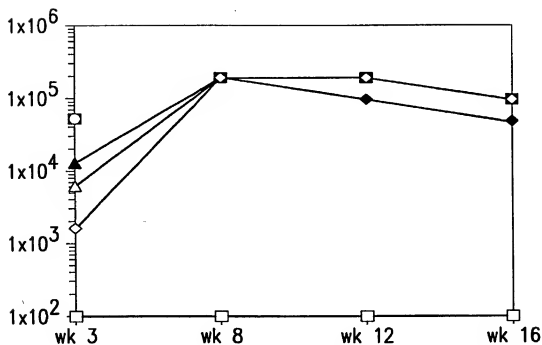


FIG.10A

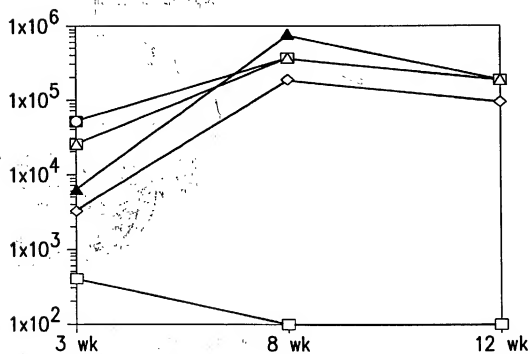


FIG.10B

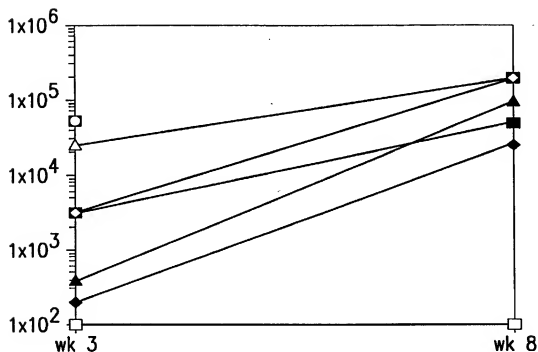


FIG.10C

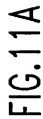


FIG. 11A

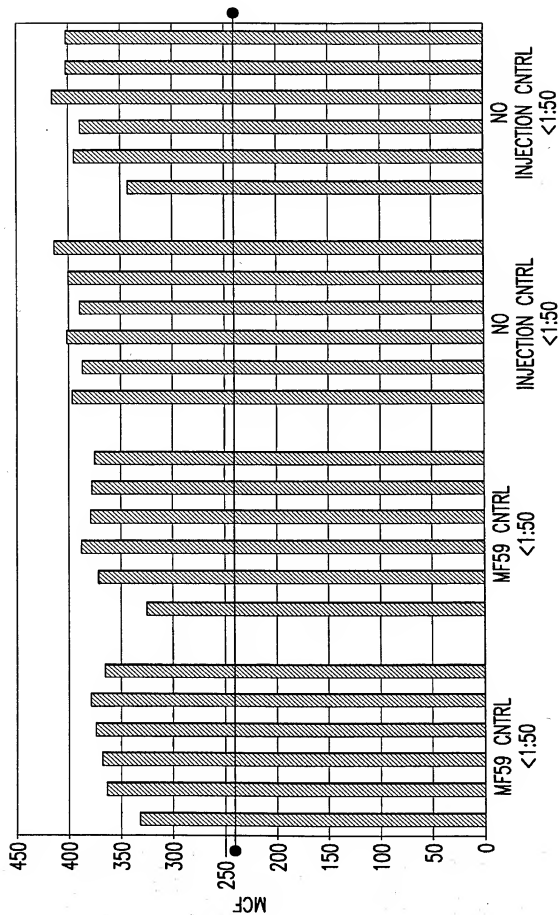


FIG.11B

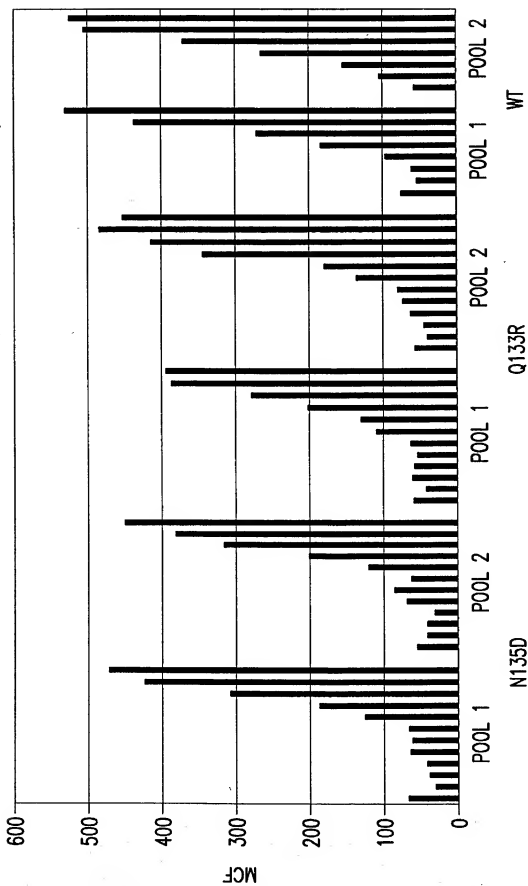


FIG.11C

Docket No.: 10271-037-999
Serial No.: 10/015,085

Inventor(s): LANGERMANN et al.
Title: "MUTANT PROTEINS, HIGH POTENCY INHIBITORY
ANTIBODIES, AND FimCH CRYSTAL STRUCTURE"

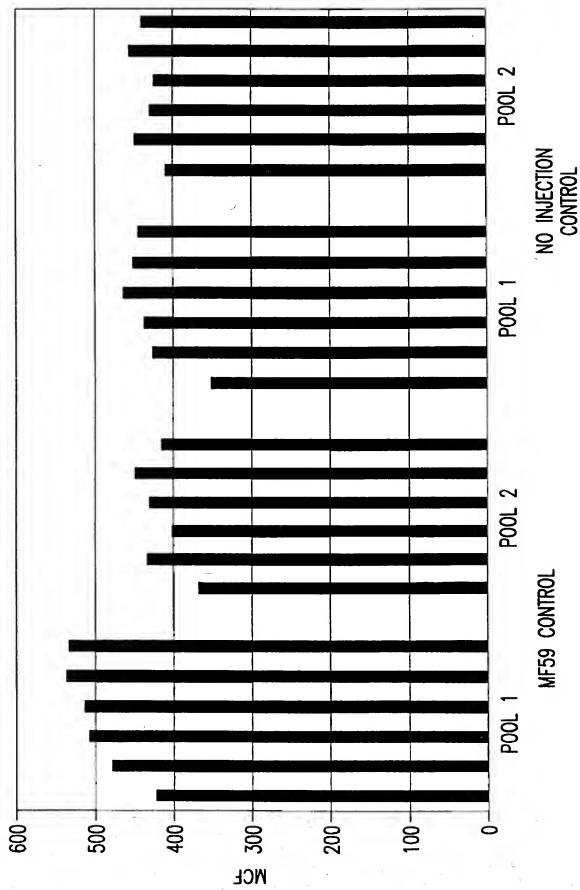
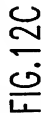


FIG.11D

FIG. 12A

FIG. 12B

STRUCTURE



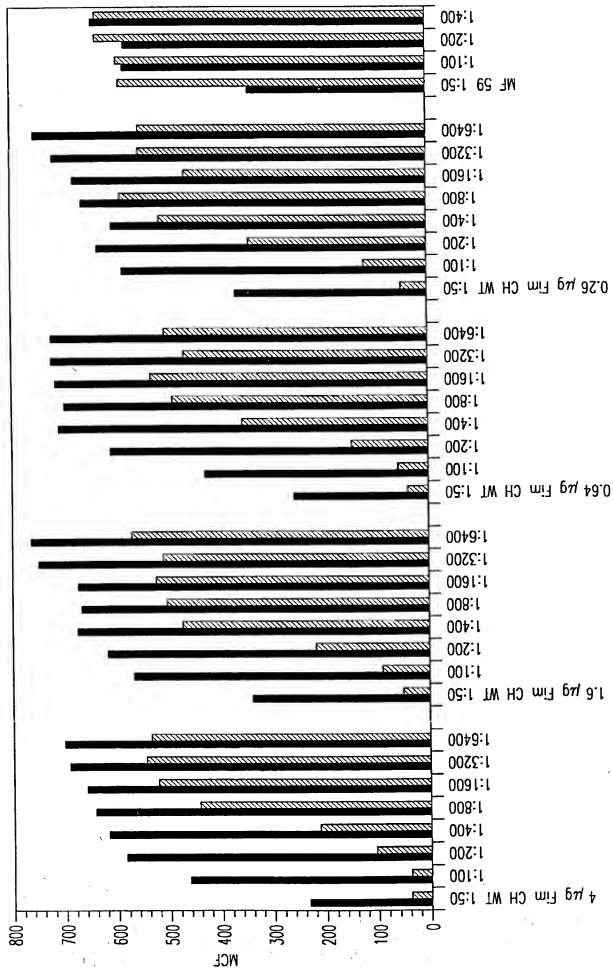


FIG. 12D

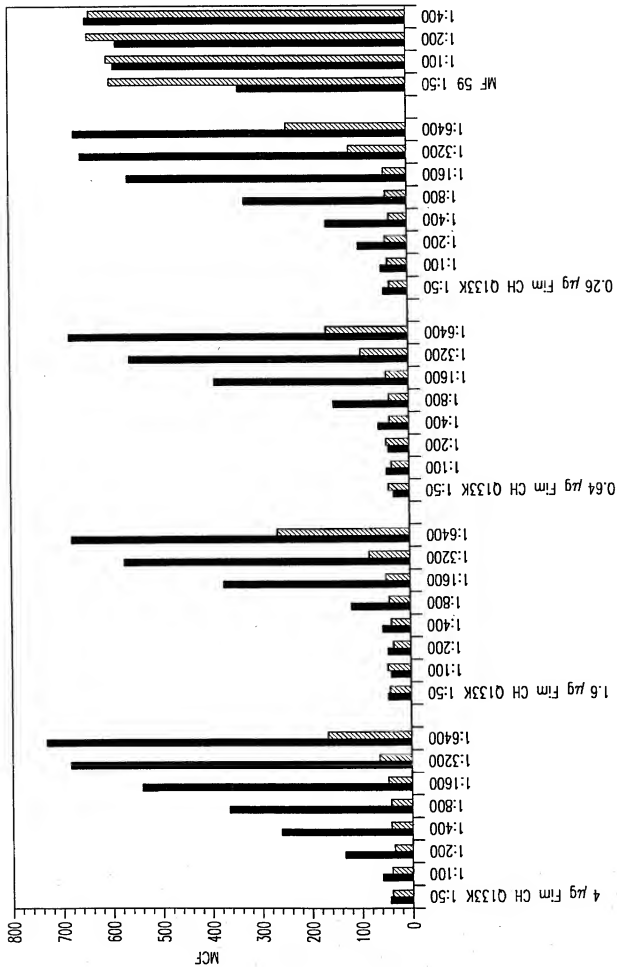


FIG.12E

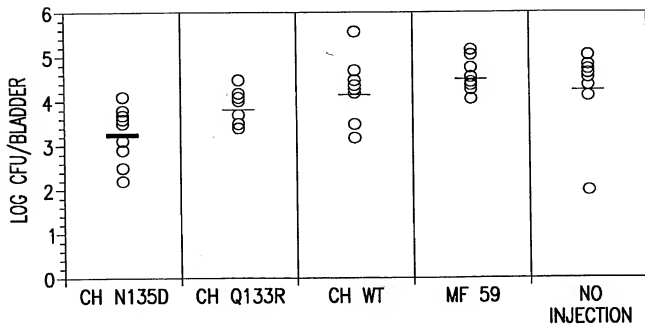


FIG.13

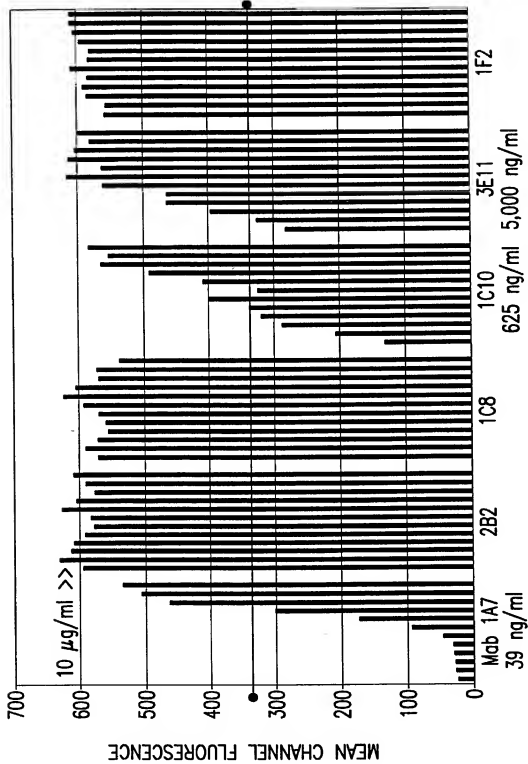


FIG. 14

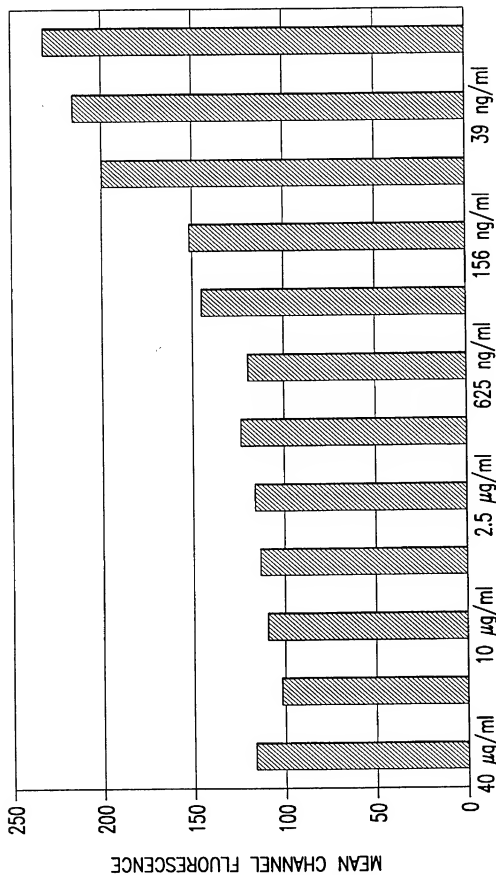


FIG. 15A

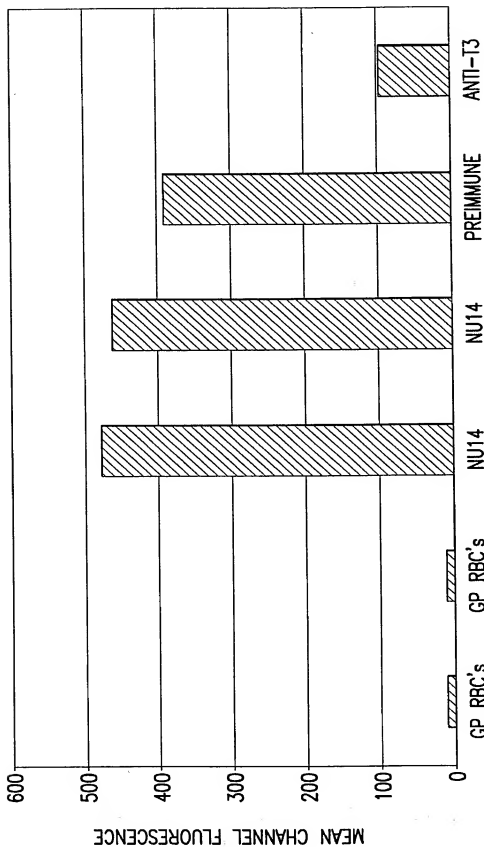


FIG.15B

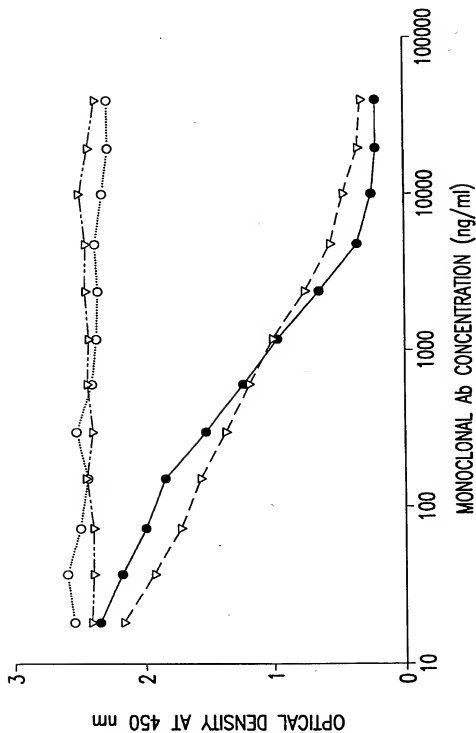


FIG.16

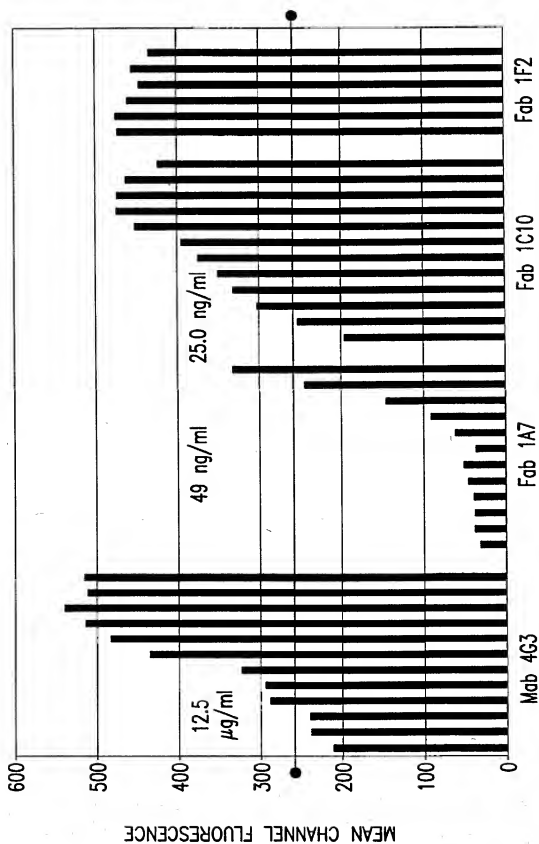


FIG.17

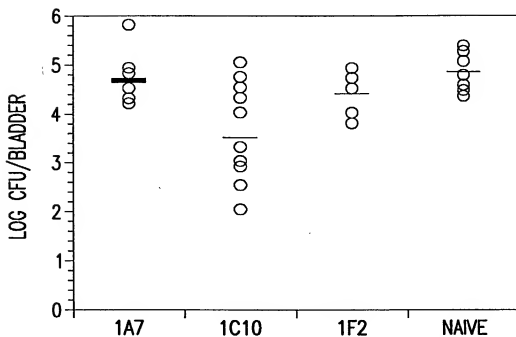


FIG.18

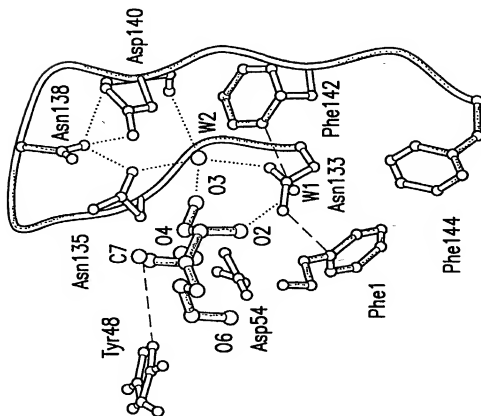


FIG.19B

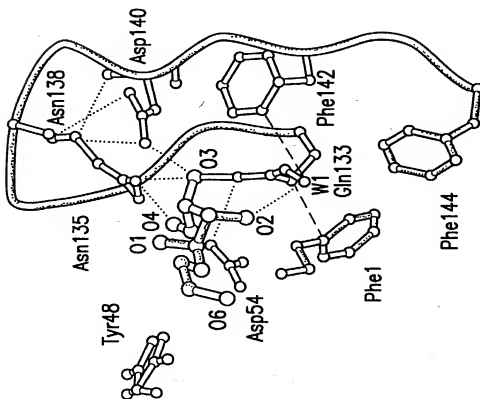


FIG.19A